REMARKS

INTRODUCTION:

In accordance with the foregoing, claims 1, 2, 4-8, 11, 15, 16, 18 and 20 have been amended. Claims 3 and 17 have been cancelled. No new matter is being presented, and approval and entry are respectfully requested.

In the Office Action mailed May 27, 2005, the Examiner noted that claims 1-20 were pending, and rejected claims 1-20. Claims 1, 2, 4-16 and 18-20 remain pending for reconsideration which is requested. The Examiner's rejection is traversed below.

ENTRY OF RESPONSE UNDER 37 C.F.R. §1.116:

Applicant(s) request(s) entry of this Rule 116 Response and Request for Reconsideration because:

(a) Claims 3 and 17 have been cancelled. Thus at least certain of the rejected claims have been canceled thereby at least reducing the issues for appeal;

(b) the amendments were not earlier presented because the Applicants believed in good faith that the cited prior art did not disclose the present invention as previously claimed;

(c) the amendments of claims 1, 2, 4-8, 11, 15, 16, 18 and 20 should not entail any further search by the Examiner since no new features are being added or no new issues are being raised;

(d) the amendments do not significantly alter the scope of the claims and place the application at least into a better form for appeal. No new features or new issues are being raised; and/or

The Manual of Patent Examining Procedures sets forth in §714.12 that "[a]ny amendment that would place the case either in condition for allowance or in better form for appeal may be entered." (Underlining added for emphasis) Moreover, §714.13 sets forth that "[t]he Proposed Amendment should be given sufficient consideration to determine whether the claims are in condition for allowance and/or whether the issues on appeal are simplified." The Manual of Patent Examining Procedures further articulates that the reason for any non-entry should be explained expressly in the Advisory Action.

REJECTION UNDER 35 U.S.C. §103:

Claims 1-20 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,835,163 to Liou et al. (hereinafter "Liou") in view of U.S. Patent No. 6,078,686 to Kim (hereinafter "Kim"). This rejection is respectfully traversed.

This rejection is respectfully traversed because neither Liou or Kim or any combination thereof teaches or suggests the feature of "a model parameter estimator capable of **estimating the tone of the image** by estimating **mean and variance** parameters from **the image** using a Gaussian model."

The Examiner asserts that Liou discloses a "model parameter estimator" according to claim 1. Liou discloses "at pixel location (i, j) . . . [t]he unknown parameter σ^2_{ij} can be estimated from the image sequence directly" (see Liou, column 9, lines 62-65). In other words, Liou discloses estimating only the variance σ^2_{ij}. Furthermore, Liou discloses only estimating the variance of the pixel located at (i, j). Additionally, Liou discloses estimating the variance σ^2_{ij} from an image sequence, i.e. more then one image. Therefore Liou discloses estimating the variance between a pixel located at (i, j) in one frame of a video and the same pixel at (i, j) in a second frame of a video. Therefore, Liou fails to teach or suggest the feature of "a model parameter estimator capable of **estimating the tone of the image** by estimating **mean and variance** parameters **from the image** using a Gaussian model" as recited in amended claim 1.

Furthermore, neither Liou or Kim, or any combination thereof, teaches or suggests the featured "**Gaussian** error function **storing** unit storing **Gaussian error function values** based on a Gaussian distribution" of claim 1. The Examiner relies on Liou, which discloses "[a]n alternative model for **frame difference** signals is that the corresponding difference $d_{ij}=(f^n_{ij}-f^{n-1}_{ij})$ at pixel location (I, j) follows a zero-mean Gaussian distribution with variance σ^2_{ij}. The unknown parameter σ^2_{ij} can be estimated from the image sequence directly" (Liou, column 9, lines 61-67). In other words, Liou discloses a difference function d_{ij} which subtracts the value of the pixel on video frame n-1 at location (i, j) (f^{n-1}_{ij}) from the value of the pixel on video frame n at the location (i,j) (f^n_{ij}). Thus, Liou fails to teach or suggest the feature of "Gaussian error function values" as recited in claim 1 which is supported by Formula (2) found on page 7 of the specification. Furthermore, Liou fails to teach or suggest **storing** the frame difference signals. Therefore, Liou fails to teach or suggest the feature of a "**Gaussian** error function **storing** unit storing **Gaussian error function values** based on a Gaussian distribution" of claim 1.

Additionally, neither Liou or Kim, or any combination thereof, teaches or suggests "a CDF calculator calculating a CDF using one of the **Gaussian error function values from the**

Gaussian error function storing unit and the estimated mean and variance parameters". The Examiner relies on element 308 of FIG. 4 and column 8, lines 62-67 which discloses "A first CDF calculator receives the **probability density function** $P_L(X_k)$ of a subimage . . . having samples all being lower than or equal to the mean level (X_m) from the divider 306 and calculates a cumulative density function (CDF) $c_L(X_k)$". In other words, Kim discloses calculating a CDF from a **probability density function**. Thus Kim fails, to teach or suggest "calculating a CDF using one of the **Gaussian error function values**". Furthermore, Kim discloses a CDF calculator which receives its input, a probability density function, from a divider element 306 (see Kim, FIG. 4). Therefore, Kim fails to teach or suggest calculating CDF "values **from the Gaussian error function storing unit** and **the estimated parameters**".

Furthermore, neither Liou or Kim, or any combination thereof, teaches or suggest the feature of "a histogram equalizer performing histogram equalization using the CDF calculated by using one of the **Gaussian error function values** from the Gaussian error function storing unit and the estimated mean and variance parameters" of claim 1. The Examiner relies of Kim which discloses "A contrast enhancing means independently equalizes a luminance signal of a picture unit output by the noise reducer by obtaining a histogram of subimages divided **on the basis of the mean value of the luminance signal** and outputs an enhanced luminance signal" (Kim, column 2, lines 39-43). In other words, Kim discloses that a luminance signal is equalized by obtaining a histogram of subimages based upon the **mean value** of the luminance signal and fails to teach or disclose "a histogram equalizer performing histogram equalization using the CDF". Furthermore, as discussed above, Kim only discloses a CDF calculation based upon a probability density function. Therefore, Kim fails to teach or suggest the claimed "histogram equalizer performing histogram equalization using the CDF calculated by using one of the **Gaussian error function values** from the Gaussian error function storing unit and the estimated mean and variance parameters" of claim 1.

Therefore, applicants respectfully submit that Liou and Kim and any combination thereof fails to teach or suggest the above mentioned features of claim 1. Therefore, the applicants respectfully requests reconsideration of claim 1 under 35 U.S.C. § 103(a). Furthermore, independent claims 7, 11, 15 and 20 contain features similar to those of claim 1, but with varying scope. Therefore, independent claims 7, 11, 15 and 20 contain material patentably distinct from Liou and Kim or any combination thereof.

Neither the Liou reference nor the Kim reference explicitly or implicitly teaches or suggests the above-identified portions of independent claims 1, 7, 11, 15 and 20. Because Liou, referred to alone, or in combination with Kim, does not teach or suggest the features as

discussed above, claims 1, 7, 11, 15 and 20 contain patentable subject matter. Therefore dependent Claims 2-6, 8-10, 12-14 and 16-19, which contain all the features of the independent claim those claims respectively depend upon, plus additional features not disclosed by the prior art, should not be rejected under 35 U.S.C. § 103(a).

CONCLUSION

It is submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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Date: 8/25/5

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